



## 15kV AL 133% TRXLPE One-Third Neutral LLDPE

Single Conductor, 220 Mils Tree Retardant Cross Linked Polyethylene, 133% Insulation Level, One-third Concentric Neutral, Linear Low Density Polyethylene (LLDPE) Jacket. Silicone Free



Image not to scale. See Table 1 for dimensions.

### CONSTRUCTION:

1. **Conductor:** Moisture blocked class B compressed Aluminum ASTM B231 1350 ¾ hard H16/H26 ( Non Moisture Blocked Optional )
2. **Conductor Shield:** Conventional Semi-conducting cross-linked copolymer; Supersmooth conductor shield optional; A conductor tape is used for cable size larger than or equal to 1500 Kcmil
3. **Insulation:** 220 Mils Tree Retardant Cross Linked Polyethylene 133% insulation level
4. **Insulation Shield:** Strippable semi-conducting cross-linked copolymer
5. **Concentric Neutral:** Helically applied soft drawn bare copper one-third concentric neutral
6. **Overall Jacket:** Linear Low Density Polyethylene (LLDPE) Jacket, black with red extruded stripes; PowerGlide® LLDPE jacket optional

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### APPLICATIONS AND FEATURES:

Southwire's 15kV cables are suited for use in wet and dry areas, conduits, ducts, direct burial, sunlight, and where superior electrical properties are desired. These cables are capable of operating continuously at the conductor temperature not in excess of 90°C for normal operation. 130°C for emergency overload, and 250°C for short circuit conditions. Jacket types available that can be installed in conduit without the aid of lubrication. Rated for 1000 lbs./FT maximum sidewall pressure.

**Novinium**, a Southwire Company, offers CableCure® services to extend the life of primary underground cables. [Visit Novinium](#)

### SPECIFICATIONS:





- ASTM B231 Standard Specification for Concentric-Lay-Stranded Aluminum 1350 Conductors
- ASTM B609 Standard Specification for Aluminum 1350 Round Wire, Annealed and Intermediate Tempers, for Electrical Purposes
- ICEA S-94-649 Standard for Concentric Neutral Cables Rated 5 - 46kV
- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV (Qualification Test Requirements)
- Rural Utility Standard RUS 1728F-U1 or 1728.204 (Electric standards and specifications for materials and construction)
- UL 1072 Listed as MV 90 When Specified
- Optional CSA 68.5: -40°C and MV 90°C optional marking available upon request

**SAMPLE PRINT LEGEND:**

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] AL 15000 VOLTS TRXLPE INSULATION 220 MILS -- (NESC) --  
SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET



**Table 1 – Weights and Measurements**

Stock Number	Cond. Size	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Concentric Neutral	Neutral DC Resistance 25°C	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	Max Pull Tension
	AWG/ Kcmil	inch	inch	mil	inch	No. x AWG	Ω /1000ft	mil	inch	lb / 1000ft	inch	lb
511403	2 (Solid)	0.257	0.728	220	0.818	6x14	0.438	50	1.046	469	8.4	398
611700	2 (7)	0.282	0.760	220	0.850	6x14	0.438	50	1.078	463	8.6	398
TBA	1 (Solid)	0.289	0.767	220	0.857	6x14	0.438	50	1.085	525	8.7	502
TBA	1 (19)	0.322	0.800	220	0.890	6x14	0.438	50	1.118	543	8.9	502
TBA	1/0 (Solid)	0.324	0.802	220	0.892	6x14	0.438	50	1.120	565	9.0	633
611782	1/0 (19)	0.351	0.822	220	0.912	6x14	0.438	50	1.140	562	9.1	633
620291	2/0 (19)	0.395	0.865	220	0.955	10x14	0.263	50	1.183	660	9.5	798
627860	2/0 (19)	0.395	0.865	220	0.955	7x14	0.375	50	1.183	624	9.5	798
TBA	3/0 (19)	0.443	0.921	220	1.011	9x14	0.292	50	1.239	729	9.9	1006
613365	4/0 (19)	0.498	0.968	220	1.058	11x14	0.239	50	1.286	803	10.3	1269
613449†	4/0 (19)	0.498	0.968	220	1.058	11x14	0.239	50	1.286	803	10.3	1269
663916	250 (37)	0.558	1.038	220	1.148	13x14	0.202	50	1.376	930	11.0	1500
613615	350 (37)	0.661	1.141	220	1.251	18x14	0.146	50	1.479	1147	11.8	2100
683847	500 (37)	0.789	1.269	220	1.379	16x12	0.103	75	1.640	1491	13.1	3000
604179	500 (37)	0.789	1.269	220	1.379	16x12	0.103	80	1.700	1555	13.6	3000
604102	750 (61)	0.968	1.458	220	1.568	24x12	0.069	75	1.883	2075	15.1	4500
661909††	750 (61)	0.968	1.458	220	1.568	15x10	0.069	75	1.925	2102	15.4	4500
610191†††	750 (61)	0.968	1.458	220	1.568	15x10	0.069	75	1.925	2074	15.4	4500
612494	1000 (61)	1.117	1.607	220	1.747	20x10	0.052	75	2.104	2670	16.8	6000

All dimensions are nominal and subject to normal manufacturing tolerances

◇ Cable marked with this symbol is a standard stock item

\* Pulling tension based on pulling eye directly connected to conductor

† HiDri Plus: Moisture absorbing powder under jacket

†† PowerGlide: Low coefficient jacket can be installed in duct without the aid of lubrication.

††† Non moisture block

TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.



**Table 2 – Electrical and Engineering Data**

Cond. Size	DC Resistance @ 25°C	AC Resistance @ 90°C	Capacitive Reactance @ 60Hz	Inductive Reactance @ 60Hz	Charging Current	Dielectric Loss	Zero Sequence Impedance	Positive Sequence Impedance	Short Circuit Current @ 30 Cycle	Allowable Ampacity in Duct 90°C	Allowable Ampacity Directly Buried 90°C
AWG/Kcmil	Ω/1000ft	Ω/1000ft	MΩ*1000ft	Ω/1000ft	A/1000ft	W/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
2 (Solid)	0.162	0.204	0.061	0.054	0.141	0.4	0.257 + j1.278	0.204 + j0.572	2092	120	150
2 (7)	0.266	0.336	0.058	0.052	0.147	0.4	0.389 + j1.220	0.336 + j0.516	2092	120	150
1 (Solid)	0.129	0.162	0.057	0.052	0.149	0.4	0.215 + j1.207	0.162 + j0.504	2092	140	175
1 (19)	0.211	0.266	0.054	0.050	0.159	0.4	0.319 + j1.148	0.266 + j0.447	2092	140	175
1/0 (Solid)	0.102	0.128	0.053	0.050	0.160	0.4	0.181 + j1.143	0.128 + j0.443	2092	155	195
1/0 (19)	0.167	0.211	0.050	0.049	0.170	0.4	0.264 + j1.104	0.211 + j0.405	2092	155	195
2/0 (19)	0.133	0.167	0.047	0.047	0.183	0.5	0.221 + j1.056	0.167 + j0.355	3487	180	220
2/0 (19)	0.133	0.167	0.047	0.047	0.183	0.5	0.221 + j1.053	0.167 + j0.355	2441	180	220
3/0 (19)	0.105	0.132	0.044	0.045	0.195	0.5	0.186 + j1.008	0.132 + j0.311	3138	200	250
4/0 (19)	0.084	0.105	0.040	0.044	0.215	0.6	0.159 + j0.967	0.105 + j0.271	3836	235	285
4/0 (19)	0.084	0.105	0.040	0.044	0.215	0.6	0.159 + j0.967	0.105 + j0.271	3836	235	285
250 (37)	0.071	0.090	0.036	0.042	0.235	0.6	0.144 + j0.929	0.090 + j0.238	4533	256	309
350 (37)	0.050	0.065	0.032	0.040	0.265	0.7	0.119 + j0.881	0.065 + j0.194	6277	310	370
500 (37)	0.035	0.046	0.028	0.039	0.304	0.8	0.100 + j0.836	0.046 + j0.156	8865	370	445
500 (37)	0.035	0.046	0.028	0.039	0.304	0.8	0.100 + j0.834	0.046 + j0.157	8865	370	445
750 (61)	0.024	0.033	0.024	0.037	0.360	0.9	0.087 + j0.792	0.033 + j0.121	13298	460	525
750 (61)	0.024	0.033	0.024	0.038	0.360	0.9	0.087 + j0.790	0.033 + j0.122	13211	460	525
750 (61)	0.024	0.033	0.024	0.038	0.360	0.9	0.087 + j0.790	0.033 + j0.122	13211	460	525
1000 (61)	0.018	0.026	0.021	0.036	0.404	1.0	0.080 + j0.764	0.026 + j0.101	17615	520	575

\*Ampacities for Direct Buried are based on ICEA P-117-734-2016 Single-Conductor Solid Dielectric 15-35kV. Single Circuit Flat Direct Buried Figure 3

\*Ampacities for Duct are based on ICEA P-117-734-2016 for Single-Conductor Solid Dielectric 15-35kV. Single Circuit Trefoil Conduit Figure 7.

\*Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft, Spacing: one diameter spacing center-to-center.



**Table 3 – Weights and Measurements (Metric)**

Stock Number	Cond. Size	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Concentric Neutral	Neutral DC Resistance 25°C	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	Max Pull Tension
	AWG/ Kcmil	mm	mm	mm	mm	No. x AWG	Ω/km	mm	mm	kg/km	mm	newton
511403	2 (Solid)	6.53	18.49	5.59	20.78	6x14	1.44	1.27	26.57	698	213.36	1771
611700	2 (7)	7.16	19.30	5.59	21.59	6x14	1.44	1.27	27.38	689	218.44	1771
TBA	1 (Solid)	7.34	19.48	5.59	21.77	6x14	1.44	1.27	27.56	781	220.98	2234
TBA	1 (19)	8.18	20.32	5.59	22.61	6x14	1.44	1.27	28.40	808	226.06	2234
TBA	1/0 (Solid)	8.23	20.37	5.59	22.66	6x14	1.44	1.27	28.45	841	228.60	2817
611782	1/0 (19)	8.92	20.88	5.59	23.16	6x14	1.44	1.27	28.96	836	231.14	2817
620291	2/0 (19)	10.03	21.97	5.59	24.26	10x14	0.86	1.27	30.05	982	241.30	3551
627860	2/0 (19)	10.03	21.97	5.59	24.26	7x14	1.23	1.27	30.05	929	241.30	3551
TBA	3/0 (19)	11.25	23.39	5.59	25.68	9x14	0.96	1.27	31.47	1085	251.46	4477
613365	4/0 (19)	12.65	24.59	5.59	26.87	11x14	0.78	1.27	32.66	1195	261.62	5647
613449†	4/0 (19)	12.65	24.59	5.59	26.87	11x14	0.78	1.27	32.66	1195	261.62	5647
663916	250 (37)	14.17	26.37	5.59	29.16	13x14	0.66	1.27	34.95	1384	279.40	6675
613615	350 (37)	16.79	28.98	5.59	31.78	18x14	0.48	1.27	37.57	1707	299.72	9345
683847	500 (37)	20.04	32.23	5.59	35.03	16x12	0.34	1.91	41.66	2219	332.74	13350
604179	500 (37)	20.04	32.23	5.59	35.03	16x12	0.34	2.03	43.18	2314	345.44	13350
604102	750 (61)	24.59	37.03	5.59	39.83	24x12	0.23	1.91	47.83	3088	383.54	20025
661909††	750 (61)	24.59	37.03	5.59	39.83	15x10	0.23	1.91	48.89	3128	391.16	20025
610191†††	750 (61)	24.59	37.03	5.59	39.83	15x10	0.23	1.91	48.89	3086	391.16	20025
612494	1000 (61)	28.37	40.82	5.59	44.37	20x10	0.17	1.91	53.44	3973	426.72	26700

All dimensions are nominal and subject to normal manufacturing tolerances

◇ Cable marked with this symbol is a standard stock item

\* Pulling tension based on pulling eye directly connected to conductor

† HiDri Plus: Moisture absorbing powder under jacket

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††† Non moisture block

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**Table 4 – Electrical and Engineering Data (Metric)**

Cond. Size	DC Resistance @ 25°C	AC Resistance @ 90°C	Capacitive Reactance @ 60Hz	Inductive Reactance @ 60Hz	Charging Current	Dielectric Loss	Zero Sequence Impedance*	Positive Sequence Impedance*	Short Circuit Current @ 30 Cycle	Allowable Ampacity in Duct 90°C	Allowable Ampacity Directly Buried 90°C
AWG/Kcmil	Ω/km	Ω/km	MΩ*km	Ω/km	A/km	W/km	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
2 (Solid)	0.5315	0.67	0.0186	0.1772	0.463	1.3123	0.257 + j1.278	0.204 + j0.572	2092	120	150
2 (7)	0.8727	1.10	0.0177	0.1706	0.482	1.3123	0.389 + j1.220	0.336 + j0.516	2092	120	150
1 (Solid)	0.4232	0.53	0.0174	0.1706	0.489	1.3123	0.215 + j1.207	0.162 + j0.504	2092	140	175
1 (19)	0.6923	0.87	0.0165	0.1640	0.522	1.3123	0.319 + j1.148	0.266 + j0.447	2092	140	175
1/0 (Solid)	0.3346	0.42	0.0162	0.1640	0.525	1.3123	0.181 + j1.143	0.128 + j0.443	2092	155	195
1/0 (19)	0.5479	0.69	0.0152	0.1608	0.558	1.3123	0.264 + j1.104	0.211 + j0.405	2092	155	195
2/0 (19)	0.4364	0.55	0.0143	0.1542	0.600	1.6404	0.221 + j1.056	0.167 + j0.355	3487	180	220
2/0 (19)	0.4364	0.55	0.0143	0.1542	0.600	1.6404	0.221 + j1.053	0.167 + j0.355	2441	180	220
3/0 (19)	0.3445	0.43	0.0134	0.1476	0.640	1.6404	0.186 + j1.008	0.132 + j0.311	3138	200	250
4/0 (19)	0.2756	0.34	0.0122	0.1444	0.705	1.9685	0.159 + j0.967	0.105 + j0.271	3836	235	285
4/0 (19)	0.2756	0.34	0.0122	0.1444	0.705	1.9685	0.159 + j0.967	0.105 + j0.271	3836	235	285
250 (37)	0.2329	0.30	0.0110	0.1378	0.771	1.9685	0.144 + j0.929	0.090 + j0.238	4533	256	309
350 (37)	0.1640	0.21	0.0098	0.1312	0.869	2.2966	0.119 + j0.881	0.065 + j0.194	6277	310	370
500 (37)	0.1148	0.15	0.0085	0.1280	0.997	2.6247	0.100 + j0.836	0.046 + j0.156	8865	370	445
500 (37)	0.1148	0.15	0.0085	0.1280	0.997	2.6247	0.100 + j0.834	0.046 + j0.157	8865	370	445
750 (61)	0.0787	0.11	0.0073	0.1214	1.181	2.9528	0.087 + j0.792	0.033 + j0.121	13298	460	525
750 (61)	0.0787	0.11	0.0073	0.1247	1.181	2.9528	0.087 + j0.790	0.033 + j0.122	13211	460	525
750 (61)	0.0787	0.11	0.0073	0.1247	1.181	2.9528	0.087 + j0.790	0.033 + j0.122	13211	460	525
1000 (61)	0.0591	0.09	0.0064	0.1181	1.325	3.2808	0.080 + j0.764	0.026 + j0.101	17615	520	575

\*Ampacities for Direct Buried are based on ICEA P-117-734-2016 Single-Conductor Solid Dielectric 15-35kV. Single Circuit Flat Direct Buried Figure 3

\*Ampacities for Duct are based on ICEA P-117-734-2016 for Single-Conductor Solid Dielectric 15-35kV. Single Circuit Trefoil Conduit Figure 7.

\*Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft, Spacing: one diameter spacing center-to-center.

Concentric Neutral  
Calculator

